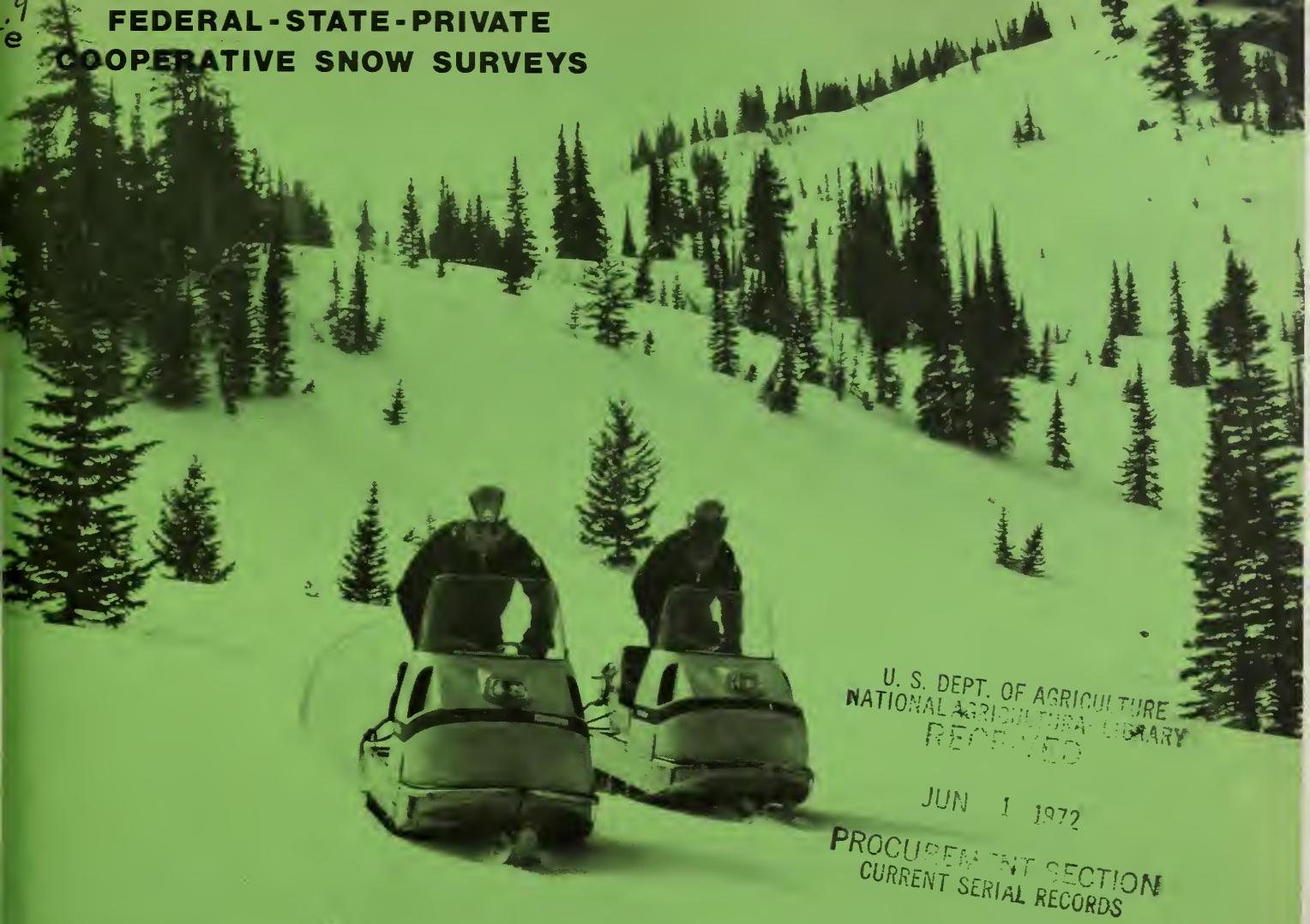


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Do not assume content reflects current scientific knowledge, policies, or practices.

**FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS**



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WATER SUPPLY OUTLOOK FOR WASHINGTON

Prepared by

U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Forest Service, U.S. Geological Survey, National Park Service, and other Federal, State and Private organizations.

AS OF
MAY 1, 1972

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates from mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent of surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters of key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO NUMBER ORC 221-3

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 209, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 970, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84111
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR WASHINGTON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

KENNETH E. GRANT
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D.C.

Released by

ORLO W. KRAUTER
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SOIL CONSERVATION SERVICE
SPOKANE, WASHINGTON

In Cooperation with

JOHN A. BIGGS

DIRECTOR
DEPARTMENT OF ECOLOGY
STATE OF WASHINGTON

Report prepared by

ROBERT T. DAVIS, Snow Survey Supervisor

SOIL CONSERVATION SERVICE
360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201

16

19

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LEGEND

- SNOW COURSES ONLY
- AERIAL MARKER ONLY
- SNOW COURSE AND AERIAL MARKER
- SNOW COURSE AND SOIL MOISTURE STATION
- PRECIPITATION STATION

124°

90°

N

Slow hemivariation compared to average 15 years (1953-67)

1000

A scale bar for 19 1/2 miles. It consists of a horizontal line with tick marks and numerical labels. The labels are 0, 20, 40, and 60, representing miles. The distance between 0 and 20 is labeled '19 1/2'. The text 'SCALE IN MILES' is written vertically along the right side of the scale bar.

SCALE IN MILES

120° 121°

30

113

三

104

1

1

1

10

WATER CONTENT OF SNOW
Percent of 15 year average
for local drainage

Less than 80% of average

Within 20% of average

More than 20% above average

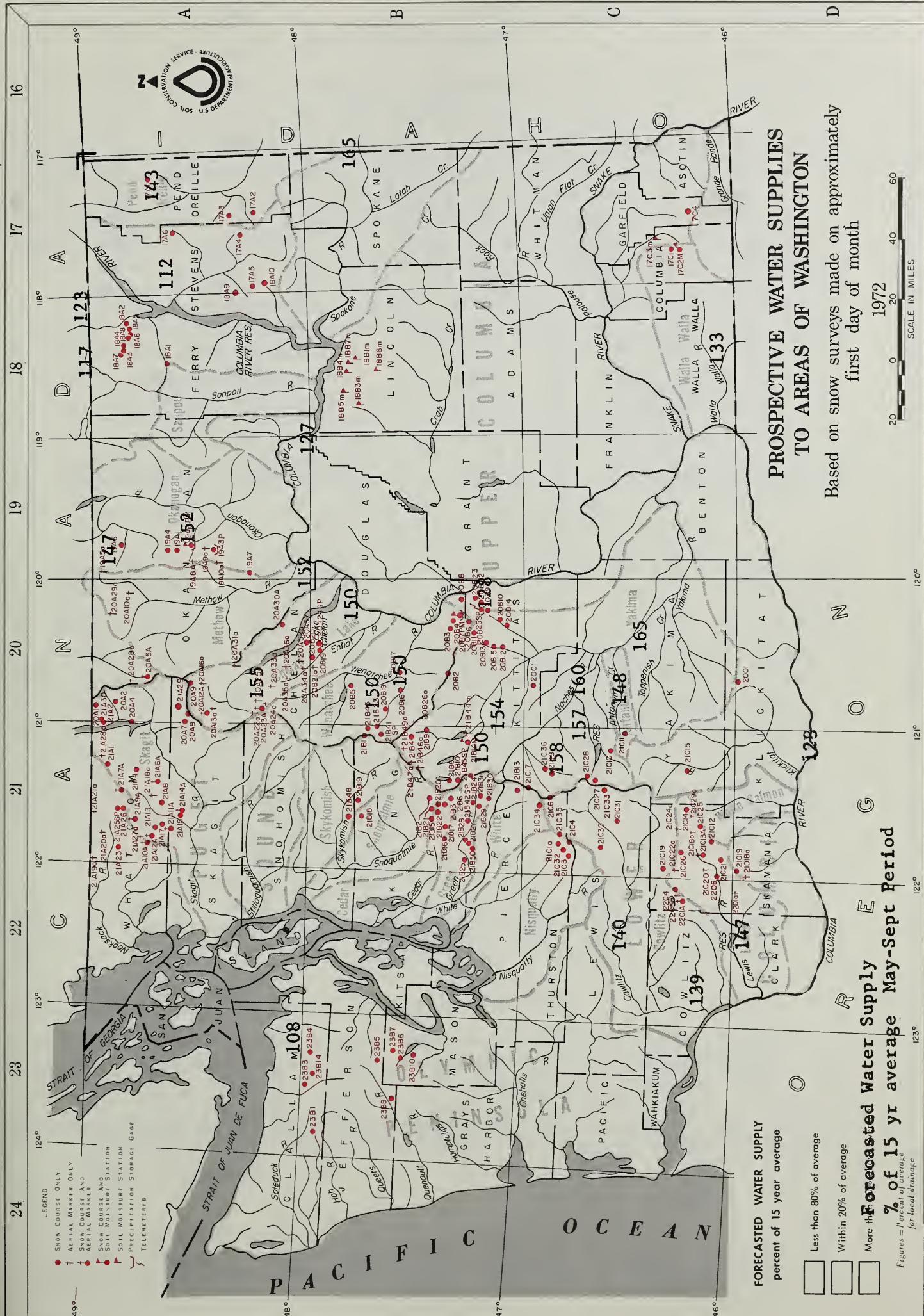
Figures = Percent of average for local drainage

188

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION GAGES

NAME	NUMBER	SEC.	TOP.	RANGE	ELV.	NAME	NUMBER	SEC.	TOP.	RANGE	ELV.	NAME	NUMBER	SEC.	TOP.	RANGE	ELV.	
UPPER COLUMBIA DRAINAGE																		
Pend Oreille River						Colockum Creek						Lewis River (continued)						Skagit River
Boyer Mountain	17A2	7	31N	43E	5250	Colockum Creek Upper	20B22	11	20N	20E	5300	Divide Meadow	21C29a	21	9N	10E	5600	Beaver Creek Trail
Bunchgrass Meadow	17A1	24	37N	44E	5000	Colockum Creek Lower	20B23	1	20N	20E	4300	Grand Meadow	21C25	28	8N	9E	3500	Beaver Pass
Winchester Creek	17A3	30	33N	43E	2970	Squitchuck Creek	20B3	1				Lone Pine Shelter	21C26	8	9N	10E	3800	Brown Top
						Beehive Springs	20B3	12	21N	19E	4400	Marble Mountain	22C25	24	8N	9E	3200	Devils Park
Kettle River	18A2	36	39N	36E	1450	Scout-A-Vista	20B4	18	21N	20E	3400	New Muddy River	22C26	36	8N	9E	2000	Freezeout Creek Trail
Boulder Road	18A3	28	39N	35E	4070	Jump-Off	20B8	34	21N	20E	4450	Oldman Pass	21D19	22	6N	7E	3100	Freezeout Meadows
Butte Creek	18A8	5	38N	36E	3170	Stemilt Slide	20B6	30	21N	20E	5000	Plains of Abraham	22C1a	35	9N	10E	4400	Granite Creek
Cabin Creek	18A4	26	38N	35E	3595	Upper Wheeler	20B7M	30	21N	20E	4400	Spencer Meadow	22C4	29	6N	7E	3400	Take Home
Goat Creek	18A5	3	38N	36E	2150	Creston-Kunz	18B1m	32	27N	34E	2440	Surprise Lakes	21C20a	16	8N	9E	4250	Meadow Cabins
Show Cays Creek	18A6	5	38N	36E	3616	Scammon	18B1m	18B3m	28	27N	31E	Table Mountain	21C24a	20	9N	10E	4200	New Horizons Lake
Show Cays Trail	18A7	20	39N	35E	4600	Jack Woods	18B1m	18B3m	21	27N	33E	Timbered Peak	21D18a	36	6N	7E	3000	Thunder Basin
Summit G. S.	18A10	19	36N	42E	3215	Krause	18B1m	18B3m	17	27N	32E	Cowlitz River	21C26	15	16N	10E	5300	Baker Pass
Baird	17Ab	11	32N	41E	2855	Sheffel's	18B1m	18B3m	27	27N	33E	Cayuse Pass	21C19	33	10N	7E	4100	Dock Butt
Carlson	18A9	11	32N	41E	4925	Wheatridge	18B1m	18B3m	24	25N	32E	Mosquito Meadows	21C22	28	10N	10E	2200	Easy Pass
Chewelah	17A3	26	31N	38E	4990	Yakima River	21C1	26	12N	14E	3100	Ohanapecosh	21C31	21	13N	11E	2870	Jasper Pass
Stranger Mountain	17A5	6	29N	38E	3370	Altanum R. S.	21C1	26	12N	14E	3100	Pickett Lake	21C33	11	13N	11E	5900	Komo Kulshan
Togo	18A10	30	39N	25E	2845	81g Boulder Creek	21C8	35	23N	14E	3200	Potato Hill	21C14	36	10N	10E	4500	Marten Lake
Sandpail River	18A1	19	36N	35E	5350	Bumping Lake	21C8	23	16N	12E	3450	Willame Creek	21C30	3	13N	8E	3250	Mount 81um
Sherman Creek Pass	18A1	19	36N	35E	5350	Colockum Pass	21C6	13	16N	12E	3400	Rocky Creek	21A12a	20	37N	8E	3400	Schreibers Meadow
Okanogan River	19A8a	2	36N	23E	7000	Roming Lake New	20B10	17	19N	20E	4123	S. F. Thunder Creek	21A13	22	37N	9E	2200	Sulphur Creek
Clark	19A9a	20	36N	24E	6750	Cooke Creek	20B10	17	19N	20E	4123	Three Mile Creek	21A15	18	36N	9E	1600	Watson Lakes
Muckamuck	19A1	30	37N	24E	5700	Fish Lake	21A8	34	24N	14E	2200	Watson Lakes	21A8	25	37N	9E	4500	Gald Mountain
Mutton Creek No. 1	19A4	19	37N	24E	6000	Green Lake	21C10	3	12N	13E	6000	Canyon	21A19a	7	40N	7E	4400	Glacier Creek
Mutton Creek No. 2	19A4	32	40N	18E	4300	Grouse Camp	20B12	34	20N	19E	2930	Panorama New	21A20a	20	40N	8E	5100	Panorama Snow Pillow
Payson	20A28a	18	35N	24E	4000	High Creek	21B16a	22	23N	12E	4624	Twin Lakes	21A23	9-10	38N	7E	3700	Twin Lakes
Rusty Creek	19A3P	18	35N	24E	4500	Joe Lake	21B16a	15	20N	14E	2200	Ghost Forest	21A26	12	37N	9E	4300	Ghost Forest
Salmon Meadows	19A2PM	33	37N	24E	4500	Lake Cle Elum	21B17a	7	23N	13E	3327	Longridge	21C4	23	15N	8E	4550	Longridge
Starvation Mtn.	19A10a	15	40N	23E	6750	Lemah Creek	20C1	24	17N	16E	3935	Paradise Park (New)	21C3	29	15N	8E	2760	Paradise Park (New)
Tout's Coulee	19A6	30	39N	25E	2845	Manastash	21C17	6	16N	11E	3400	White River Campground	21C35	13	15N	8E	5050	White River Campground
Methow River	20A10a	10	38N	20E	6400	Nanum	20B13	4	20N	19E	3875	Green River	21B13	30	18N	11E	6000	Green River
Billy Goat Pass	20A19a	8	39N	20E	7000	Tunnel Creek	20B14	20	20N	20E	3630	Airstrip Creek	21B24	18	20N	11E	1800	Airstrip Creek
Hart's Pass	20A5A	7	37N	18E	6500	Tunnel Avenue	21B8	13	21N	11E	2450	Charley Creek	21B25	27	21N	8E	1200	Charley Creek
Horseshoe Basin	19A5a	15	40N	23E	7000	Van Epps Pass	20B6a	16	23N	15E	5925	Cougar Mountain	21B26	21	21N	9E	3200	Cougar Mountain
Loup Loup	19A7	36	34N	23E	4650	Walters Lake	20B15	22	20N	19E	3560	Grass Mountain No. 3	21B27	14	20N	8E	2900	Grass Mountain No. 3
Chelan Lake Basin	20A22a	12	31N	15E	6500	White Pass (East Side)	21C28	2	13N	11E	4500	Lester Creek	21B28	12	20N	8E	2100	Lester Creek
Cloudy Pass	20A25a	3	31N	16E	3540	White Pass (Leach Lake)	21C27	1	13N	11E	4500	Lynn Lake	21B30	21	20N	8E	3100	Lynn Lake
Greenwood Flat	20A24a	8	31N	16E	5275	White Pass	21C28	4	16N	9E	4500	Snowshoe Butte	21B31	5	19N	11E	5000	Snowshoe Butte
Little Meadows	20A23a	18	31N	16E	5900	White Pass	21C28	4	16N	9E	4500	Stampede Pass	21B31	25	21N	11E	3000	Stampede Pass
Lyman Lake	20A13a	18	34N	16E	2200	White Pass	21C28	1	13N	11E	4500	Twin Camp	21B30	18	19N	11E	4100	Twin Camp
Park Creek Flat	20A12a	7	34N	16E	4600	White Pass	21C28	2	13N	11E	4500	Four Stream	21B31	27	21N	11E	4700	Four Stream
Petersons	20A16a	3	34N	17E	3750	White Pass	21C29	3	12N	10E	4500	Home Sweet Home	21B32	28	21N	9E	5200	Home Sweet Home
Rainy Pass	20A30A	32	31N	20E	6300	White Pass	21C29	3	12N	10E	4500	Sundown Pass	21B33	25	24N	7N	3900	Sundown Pass
Safety Harbor	20A31a	34	33N	18E	6500	White Pass	21C29	3	12N	10E	4500	Hurricane	21B34	36	29N	7W	4500	Hurricane
War Creek Pass	20A31a	34	33N	18E	6500	White Pass	21C29	3	12N	10E	4500	Deer Lake	21B35	14	28N	9W	3900	Deer Lake
LOWER COLUMBIA DRAINAGE																		
Asotin Creek	20A22a	9	8N	40E	5700	White Salmon River	21C12	35	7N			Green River	21B24	18	20N	5W	5200	Green River
Brief	20A19	34	28N	19E	1600	Spruce Springs	21C4	9	8N			Asotin Creek	21B25	27	21N	8E	4700	Asotin Creek
Entiat Meadows	20A33a	28	31N	17E	4800	Mill Creek	21C4	9	8N			Charley Creek	21B26	21	21N	8E	3000	Charley Creek
Entiat River Trail	20A34a	2	29N	17E	3150	Couse	17C3m	2	9N	35E	3370	Cougar Mountain	21B27	31	22N	10E	3500	Cougar Mountain
Fox Camp	20A36a	17	30N	18E	6510	Homestead	17C1	11	9N	40E	4030	Grass Mountain No. 2	21B28	32	22N	10E	3500	Grass Mountain No. 2
Pope Ridge	20A28	22	29N	18E	4300	Martin Springs (Holmers SM)	17C2m	23	9N	40E	4400	Lynn Lake	21B29	21	20N	8E	4000	Lynn Lake
Pugh Ridge	20A32a	34	30N	18E	6400	White Lake	21B16	31	22N	10E	2500	Snowshoe Butte	21B30	31	22N	10E	4700	Snowshoe Butte
Shady Pass	20A37	20	29N	19E	6200	White Lake	21B16	31	22N	10E	2500	Stampede Pass	21B31	28	25N	7W	3900	Stampede Pass
Show Rushy	20A55a	21	30N	17E	3850	White Lake	21B16	31	22N	10E	2500	Deer Lake	21B32	25	24N	7N	3900	Deer Lake
Tommy Creek	20B21a	10	28N	18E	5300	Satus Pass	20D1	21	6N	17E	4030	White Salmon River	21B33	14	28N	9W	4500	White Salmon River
Wenatchee River	21B23	7	26N	15E	2925	West Fork Cabin	21C15	23	9N	12E	3000	White Salmon River	21B34	35	7N			White Salmon River
Berne-Mill Creek (New)	21B18P	13	26N	14E	3240	Cultus Creek	20B2	35	22N	17E	4270	White Salmon River	21B35	31	22N	11E	3625	White Salmon River
Bllewett Pass No. 2	20B18	4	25N	17E	1810	White Salmon River	20B18	35	22N	17E	4270	White Salmon River	21B36	26	26N	9E	1900	White Salmon River
Chiwakum G. S.	20B16	33	27N	17E	1970	White Salmon River	21B18	35	22N	17E	4270	White Salmon River	21B37	31	22N	11E	3625	White Salmon River
Lake Wenatchee R. S.	20B15	1	24N	17E	1127	White Salmon River	21B18	35	22N	17E	4270	White Salmon River	21B38	26	26N	9E	1900	White Salmon River
Merritt	20B18	14	26N	16E	2140	White Lake	21B17	11	21N	9E	2400	White Salmon River	21B39	24	21N	9E	3600	White Salmon River
Stevens	21B1	14	26N	15E	4070	White Lake	21B16	24	21N	10E	3000	White Salmon River	21B40	1	21N	10E	3400	White Salmon River
Stevens Pass Sand Shed	21B15	12	26N	15E	3700	White Lake	21B20	1	21N	10E	3400	White Salmon River	21B41	33	26N	10E	2900	White Salmon River
Trough #2	20B25SP	10	20N	20E	5310	White Salmon River	21C18a	24	9N	9E	4200	White Salmon River	21B42	1	21N	9E	3900	White Salmon River

LEGEND
 1. NUMBERING SYSTEM EXAMPLE
 2. SNOW COURSE AND SOIL MOISTURE STATION
 3. SNOW COURSE AND AIRSHIP MARKER
 4. SNOW COURSE AND SOIL MOISTURE STATION
 5. SNOW COURSE AND PRECIPITATION STORAGE GAGE
 6. SNOW COURSE AND PRECIPITATION STORAGE GAGE
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INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE CAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.	NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.						
UPPER COLUMBIA DRAINAGE																	
Pend Oreille River						Colockum Creek											
Boyer Mountain	17A ¹	7	31N	43E	5250	Colockum Creek, Upper	20B22	11	20N	20E	5300	Divide Meadow	21C29a	21	9N	10E	5600
Bunchgrass Meadow	17A ¹	24	37N	44E	5000	Colockum Creek, Lower	20B23	1	20N	20E	4300	Grand Meadow	21C25	28	9N	9E	5550
Winchester Creek	17A ³	30	33N	43E	2970	Squilchuck Creek	20B3	12	21N	19E	4400	Long Pine Shelter	21C26	24	9N	9E	3800
Kettle River	18A ²	30	39N	36E	1450	Beehive Springs	20B4	18	21N	20E	3400	Marble Mountain	22C5a	24	BN	SE	3200
Boulder Road	18A ³	28	39N	35E	4070	Scout-A-Vista	20B5	30	39N	36E	2265	New Shady River	20A1	14	40N	14E	5900
Cabin Creek	18A ⁴	5	38N	36E	3170	Stemilt Creek	20B6	34	21N	20E	4400	Oldman Pass	21D19	22	6N	7E	3500
Goat Creek	18A ⁵	26	39N	35E	3595	Jump-Off	20B7	30	21N	20E	4450	Plains of Abraham	21A29	25	36N	16E	3500
Show Caps Creek	18A ⁵	3	38N	36E	2150	Stemilt Slide	20B6	30	21N	20E	5000	Smith Creek Road	22C4	29	9N	6E	2100
Show Caps Trail	18A ⁶	5	38N	36E	2720	Upper Wheeler	20B7	30	21N	20E	4400	Spencer Meadow	21C0a	16	BN	7E	3400
Summit G. S.	18A ⁷	20	39N	35E	4600	Crab Creek	18B1m	32	27N	34E	2440	Surprise Lakes	21C13a	14	7N	8E	4250
Baird	17A ⁶	19	36N	42E	5215	Jack Woods	18B3m	28	27N	31E	2750	Table Mountain	21C24a	20	9N	9E	2800
Carlson	18A ⁹	34	32N	38E	2885	Krause	18B4m	21	27N	33E	2420	Timbered Peak	21D18a	36	6N	6E	3000
Chevelah	17A ⁴	11	32N	41E	4925	Sheffels	18B5m	17	27N	32E	2378	Cayuse Pass	21C6	15	16N	10E	5300
Stranger Mountain	17A ⁵	28	31N	38E	4990	Sherman	18B7m	24	27N	33E	2440	Mosquito Meadows	21C19	33	10N	7E	4100
Togo	18A10	6	29N	38E	3370	Wheatridge	18B6m	24	25N	32E	2290	Ohanapecho	21C32	28	15N	10E	5200
Sherman Creek Pass	18A1	19	36N	35E	5350	Yakima River	21C1	26	12N	14E	3100	Packwood Lake	21C31	21	13N	10E	2870
Matton Creek	19A8a	2	36N	23E	7000	Big Boulder Creek	21B9	35	23N	14E	3200	Pistail Peak	21C33	11	13N	11E	5300
Clark	19A9a	20	36N	24E	6750	Bumping Lake	21C8	23	16N	12E	3450	Portaio Hill	21C14	36	10N	4E	4500
Muckamuck	19A9	30	37N	24E	5700	Matton Creek	20B9	25	20N	20E	5370	Willame Creek	21C30	3	13N	8E	3250
Mutton Creek No. 1	19A1	19	37N	24E	6000	Colockum Pass	20B10	17	19N	20E	4123	Schreibers Meadow	21A1a	20	37N	8E	2100
Matton Creek No. 2	19A4	19	37N	24E	6000	Bumping Lake	21C36	13	16N	12E	3400	S. F. Thunder Creek	21A14a	20	36N	9E	3400
Rusty Creek	19A3P	18	30N	18E	4300	Colockum Pass	20B11	29	21N	19E	5385	Glacier Creek	21A23	9-10	38N	7E	3700
Salmon Meadows	19A2Pm	19	32N	37N	4000	Gooke Creek	21B14a	22	23N	12E	4624	Panorama New	21A26	17	39N	9E	4300
Starvation Mtn.	19A10a	15	35N	23E	6750	Doney Flat	21B14m	15	20N	14E	2200	Panorama Snow Pillow	21A25P	17	35N	9E	4500
Touts Coulee	19A6	30	39N	25E	2845	Fish Lake	21B4	34	24N	14E	3571	Twin Lakes	21A21a	16	40N	16E	5200
Billy Goat Pass	20A10a	10	38N	20E	6400	Green Lake	21C10	3	12N	13E	6000	Bald Mountain	21A19a	7	40N	7E	4400
Dollar Watch	20A29a	28	39N	20E	7000	Grouse Camp	20B11	29	21N	19E	2930	Canyon	21A20	20	40N	8E	5100
Harts Pass	20A5a	7	37N	18E	6500	High Creek	20B12	34	20N	19E	20E	Trail Creek	21B13	22	37N	8E	1600
Horsehoe Basin	19A5a	15	40N	23E	7000	Lake Cle Elum	20B14a	15	20N	14E	2200	Tunnel Avenue	21B14	25	20E	33E	4500
Loup Loop	20A7	36	34N	23E	4650	Lemah Creek	20B14m	7	23N	13E	3327	Ghost Forest	21B17a	4	12N	16E	2760
Cloudy Pass	20A22a	12	31N	15E	6500	Matash	20C1	24	17N	16E	3935	Longmire	21C3	13	15N	8E	2760
Greenwood Flat	20A24a	3	31N	16E	3540	Morse Lake	20C17	6	16N	11E	5400	Paradise Park (New)	21C1	13	15N	8E	5050
Little Meadows	20A25a	18	31N	16E	5275	Nonum	20B13	4	20N	19E	3875	Stem Glade	21C35	13	15N	8E	5050
Lyman Lake	20A25a	18	31N	16E	5900	Prairie Creek	20B14	20	19N	20E	4100	White River	21B13	30	1BN	11E	6000
Park Creek Flat	20A13a	18	34N	16E	2220	Tunnel Avenue	21B1B	13	21N	11E	2450	Corral Pass	21B13	29	15N	8E	4000
Petersons	20A12a	7	34N	16E	4600	Van Epp's Pass	20B16a	16	23N	13E	5925	South River Campground	21C34	4	16N	9E	4000
Rainy Pass	20A16a	3	34N	17E	3730	Walters Flat	20B15	12	23N	13E	3024	White Pass (East Side)	21C2B	2	13N	11E	4500
Safety Harbor	20A30a	32	31N	20E	6300	Waptus Lake	20B19a	12	23N	13E	3024	White Pass (Leach Lake)	21C27	1	13N	11E	4500
War Creek Pass	20A31a	34	33N	18E	6500	White Pass (Leach Lake)	21C27	1	13N	11E	4500	Green River	21B24	18	20N	11E	1800
Brief	20B19	34	28N	19E	1600	Spruce Springs	20A33a	28	31N	17E	4800	Airstrip	21B25	27	21N	8E	3200
Entiat Meadows	20A33a	2	31N	17E	4270	Mill Creek	17C4	9	BN	40E	5700	Charley Creek	21B27	14	20N	8E	2900
Entiat River Trail	20A34a	2	31N	17E	3150	Couse	17C3m	2	9N	35E	3370	Cougar Mountain	21B28	21	21N	8E	3200
Pope Ridge	20A36a	3	29N	18E	4300	Homesead Springs	17C1	11	9N	40E	4030	Grass Mountain No. 2	21B27	14	20N	8E	3200
Pug Ridge	20B20	22	29N	18E	4300	Martin Springs (Helmers Mtn.)	17C2m	23	9N	40E	4400	Lester Creek	21B29	36	20N	10E	3100
Shady Pass	20A37	20	29N	19E	6200	Rex River	21B30	21	20N	11E	4000	Dunn Lake	21B30	21	20N	8E	4000
Snow Brushy	20A35a	21	30N	17E	3850	Satus Pass	20B1	21	20N	19E	3360	Sawmill Ridge	21B31	5	19N	11E	4700
Tommy Creek	20B21a	10	28N	18E	5300	West Fork Cabin	21B31	23	21N	11E	3000	Snowshoe Butte	21B43P	14	20N	11E	5000
Bern-Mill Creek	21B23	7	26N	15E	2925	White Salmon River	21C12	35	7N	BE	4000	Black and White Lakes	23B6	17	24N	8E	4200
Bern-Mill Creek (New)	21B41SP	13	14E	3240	Cultus Creek	20B2	35	17E	4270	Four Stream	23B6	16	24N	8E	4700		
Blewett Pass No. 2	20B12	35	22N	16E	4270	City Cabin	21B21	30	22N	10E	3390	Home Sweet Home	23B5	1	23N	8W	3000
Chiwaukum G. S.	20B16	4	25N	17E	1810	Mt. Gardner Aux.	21B22	31	22N	10E	2500	Sundown Pass	23B5	25	24N	7W	3900
Leavenworth R. S.	20B17	33	27N	17E	1810	Mt. Lindsay	21B16	31	22N	9E	3000	Deer Lake	23B1	14	2BN	9W	3900
Merritt	20B18	4	26N	16E	2140	Mt. Washington	21B15	31	22N	9E	3000	Sole duck River	23B1	14	2BN	9W	3900
Stevens Pass	21B45	14	26N	19E	4070	Rex River	21B17	11	21N	9E	2400	Snoqualmie River	21B4B	31	22N	11E	3625
Stevens Pass Sand Shed	21B45	14	26N	19E	3700	Satus Pass	20B1	21	21N	10E	3000	Oallic Meadows	21B2	31	22N	10E	1900
Trough #2	20B22SP	10	20N	20E	5310	West Fork Cabin	21B20	1	21N	10E	3400	South Fork Tolt	21B1B	26	26N	9E	2107

WATER SUPPLY OUTLOOK

State of Washington

May 1, 1972

SNOWCOVER

There is only one basin in the State of Washington that is reporting a below-normal snowpack and this only 2% below. Generally the snowpack ranges up to 138% greater than normal which occurred on the Wenatchee watershed. Last month's record breaker, the Yakima, is running a close second. The peculiar thing about the snowpack this year is the lack of depletion in the mid-elevation area and where we normally have a decrease from April to May in the higher locations, this year with the result of the cold temperatures and above-normal precipitation many of these snow courses have increased in actual water equivalent. Even at the lower elevations where it always melts off the rate of depletion is zero or much below expected. As can be seen from the preceding map the only areas in the State of Washington with less than 120% of normal snowpack are the White and Green River watersheds.

RESERVOIRS

The reservoir story in an anticipated high-flow year has little meaning. Where normally the irrigation and power interests are attempting to fill the reservoirs to maintain high-head or full-volume, this year with the heavy flood control program that is being carried on by the Corps of Engineers all reservoirs of any consequence have been lowered to handle the anticipated above-normal flows. Reservoirs like Franklin D. Roosevelt are only 10% full at

this time. Certain small reservoirs that have no value for flood, such as those on the Okanogan Irrigation District land, are nearly full and even these have been evacuated in part in anticipation of large inflows. The slow-down in runoff during the month of April has assisted the reservoir operators in lowering their storage to an acceptable level for flood control purposes, i.e., the five Yakima reservoirs have reached their designed low elevation and excessive releases have been halted. There are no flood control areas in these reservoirs and they are being operated voluntarily by the irrigation interests for flood control purposes in the lower Yakima valley.

PRECIPITATION

Only the central Washington area, as reported by the National Weather Service, had below-normal precipitation. The range of rainfall, percentagewise, extends from 9% below normal to 57% above on the southwest slopes of the Cascades. The large area on the west side was generally 48% greater than normal and along the east slope 14% above normal. Along the east side of the state rainfall was 7% above normal and 19% above for the Columbia Basin in Canada.

STREAMFLOW

All streams in the state are flowing near average. Where reservoir evacuation has taken place this past month measured flow was well above normal, i.e., the Yakima at Parker's measured flow was 355% of average while the adjusted flow at Kiona, downstream, was only 195%. This same situation is true on the Okanogan and Skagit Rivers. The flow at The Dalles was 18% greater than normal adjusted for reservoir releases, while the measured flow was in the neighborhood of 60% greater. Forecasts of streamflow are essentially the same as released last month, percentagewise. There has been a general increase of forecasted amounts due to the increased precipitation and normal outflow but the situation has not been changed appreciably from that previously reported. Numerical forecasts can be found elsewhere in this report.

STREAMFLOW FORECASTS - MAY 1972

The following summarized runoff forecasts are based principally on mountain snow cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. Streamflow figures for 1971 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1972	%	Seasonal Streamflow in Thousands of Acre-Feet					15-Yr. Average 1953-67			
			15-Yr. Avg.	Fore- cast Period	1971	1970	1969				
<u>COLUMBIA BASIN</u>											
<u>Columbia River System</u>											
<u>Columbia River</u>											
at Birchbank 1/											
	53570	123	May-Sep	45662	33048	43220	43577				
	42800	123	May-Jul	36532	26426	35787	37692				
	29700	122	May-Jun	26829	19447	27412	24252				
Columbia River											
at Grand Coulee 1/											
	80000	127	May-Sep	68309	50708	62413	62799				
	66600	127	May-Jul	57392	42654	53383	52240				
	52500	134	May-Jun	44498	33665	42309	39230				
Columbia River											
bl. Rock Island Dam 1/											
	88500	128	May-Sep	77437	54409	67013	68964				
	74100	129	May-Jul	65569	46101	57853	57500				
	57500	133	May-Jun	50708	36540	46189	43110				
Columbia River											
at The Dalles OR 1/											
	118500	128	May-Sep	108712	80458	90425	92456				
	101000	131	May-Jul	92986	68366	78257	77330				
	80600	135	May-Jun	74220	55159	63801	59690				
<u>Pend Oreille River System</u>											
<u>Pend Oreille River</u>											
bl. Box Canyon											
	19800	143	May-Sep		13567	12406	13910				
	17900	142	May-Jul		12506	11294	12669				
	15100	142	May-Jun		10815	9272	10635				
<u>Kettle River System</u>											
<u>Kettle River</u>											
nr. Laurier											
	1950	117	May-Sep	2020	1005	1747	1667				
	1854	118	May-Jul	1956	974	1696	1571				
	1644	118	May-Jun	1707	910	1556	1393				

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Streamflow Forecasts - May 1972 (Cont.)

Basin, Stream and Station	Forecast Runoff 1972	%	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Feet			15-Yr. Average 1953-67				
				1971	1970	1969					
<u>Kettle River System (Cont.)</u>											
Colville River											
at Kettle Falls	110	112	May-Sep	63	141	98					
	96	112	May-Jul	54	127	86					
	85	112	May-Jun	49	111	76					
<u>Spokane River System**</u>											
Spokane River											
at Post Falls ID 2/	3500	165	May-Sep	2862	1952	2120					
	3400	168	May-Jul		1862	2025					
	3100	165	May-Jun		1749	1882					
<u>Okanogan River System**</u>											
Similkameen River											
nr. Nighthawk	2080	147	May-Sep	816	1116	1431					
	1950	147	May-Jul	775	1067	1325					
	1610	146	May-Jun	705	969	1103					
Okanogan River											
nr. Tonasket	2450	152	May-Sep	869	1296	1609					
	2200	152	May-Jul	810	1201	1449					
	1820	153	May-Jun	731	1079	1190					
<u>Methow River System**</u>											
Methow River											
nr. Pateros	1470	152	May-Sep	593	942	969					
	1370	153	May-Jul	557	896	895					
	1160	155	May-Jun	503	830	748					
<u>Chelan River System</u>											
Chelan River											
at Chelan 3/	1720	150	May-Sep	848	1188	1148					
	1520	152	May-Jul	759	1080	1001					
	1140	152	May-Jun	626	943	752					
Stehokin River											
at Stehokin	1280	155	May-Sep	641	868	827					
	1080	155	May-Jul	553	760	695					
	794	156	May-Jun	442	654	509					
Entiat nr.											
Ardenvoir	274		May-Sep	154	246	--					
	254		May-Jul	142	230	--					
	208		May-Jun	123	208	--					

* Forecasts made by J. Alden Wilson, Soil Conservation Service, Boise, Idaho.

** These forecasts are based in part upon base flow data especially prepared and furnished for this purpose by the U. S. Geological Survey.

2/ Observed flow corrected for storage in Couer d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Streamflow Forecasts - May 1972 (Cont.)

Basin, Stream and Station	Forecast Runoff 1972	%	Seasonal Streamflow in Thousands of Acre-Feet				15-Yr. Average 1953-67			
			15-Yr. Avg.	Fore- cast Period	1971	1970				
<u>Wenatchee River System</u>										
Wenatchee River										
at Plain	1770	150	May-Sep		930	1269	1183			
	1590	151	May-Jul		852	1176	1053			
	1210	151	May-Jun		715	1044	802			
Wenatchee River										
at Peshastin	2409	150	May-Sep		1293	1706	1606			
	2166	150	May-Jul		1195	1593	1444			
	1673	151	May-Jun		1009	1422	1108			
<u>Steilacoom Basin</u>										
nr. Wenatchee	140*	--	May-Sep			145*	--			
<u>Yakima River System</u>										
Yakima River										
nr. Martin 4/	177	150	May-Sep	178	108	128	118			
	162	151	May-Jul	165	100	116	107			
	134	152	May-Jun	125	91	108	88			
Yakima River										
at Cle Elum 5/	1217	154	May-Sep		733	856	790			
	1096	155	May-Jul		670	782	707			
	905	155	May-Jun		590	717	584			
Yakima River										
nr. Parker 6/	2158	165	May-Sep	1218	1468	1308				
	2132	165	May-Jul	1240	1483	1292				
	1879	163	May-Jun	1188	1458	1153				
Kaches River										
nr. Easton 7/	160	157	May-Sep	93	111	102				
	150	158	May-Jul	90	106	95				
	128	158	May-Jun	83	99	81				
Cle Elum River										
nr. Roslyn 8/	639	154	May-Sep	386	422	415				
	581	155	May-Jul	353	399	375				
	470	155	May-Jun	301	366	303				
Bumping River										
nr. Nile 9/	209	157	May-Sep	119	133	133				
	191	158	May-Jul	112	125	121				
	153	158	May-Jun	97	116	97				

* Thousands of Miners' inches

4/ Observed flow corrected for storage in Lake Keechelus.

5/ Observed flow corrected for storage in Keechelus, Kachess and Cle Elum Lakes and diversion by Kittitas Canal.

6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation and Sunnyside Canals.

7/ Observed flow corrected for storage in Lake Kachess.

8/ Observed flow corrected for storage in Lake Cle Elum.

9/ Observed flow corrected for storage in Bumping Lake.

Streamflow Forecasts - May 1972 (Cont.)

Basin, Stream and Station	Forecast Runoff 1972	%	Fore- cast Period	Seasonal Streamflow in Thousands of Acre-Feet			15-Yr. Average 1953-67
				1971	1970	1969	
<u>Yakima River System (Cont.)</u>							
American River	177	158	May-Sep	119	121	112	
nr. Nile	164	159	May-Jul	111	114	103	
	132	159	May-Jun	97	104	83	
Tieton River at Tieton Dam <u>10/</u>	335	155	May-Sep	220	233	216	
	285	157	May-Jul	183	203	181	
	218	158	May-Jun	147	180	93	
Naches River nr. Naches <u>11/</u>	1197	160	May-Sep	748	820	748	
	1082	162	May-Jul	686	752	668	
	892	163	May-Jun	601	683	547	
Ahtanum Creeks nr. Tampico <u>12/</u>	59	148	May-Sep	37	44	40	
	53	151	May-Jul	33	40	35	
	46	153	May-Jun	29	37	30	
<u>Lower Columbia River System</u>							
Mill Creek							
nr. Walla Walla	24	133	May-Sep	19	19	18	
	19	136	May-Jul	15	15	14	
	17	142	May-Jun	13	13	12	
Lewis River at Arfie <u>13/</u>	1410	147	May-Sep	1397	631	1164	956
	1200	151	May-Jul	1184	514	982	796
	1000	152	May-Jun	924	440	854	657
Cowlitz bl. Mayfield Dam	2352	140	May-Sep	1246	1752	1680	
	2012	141	May-Jul	1056	1525	1427	
	1596	141	May-Jun	876	1324	1132	
Cowlitz River at Castle Rock <u>14/</u>	2940	139	May-Sep	1584	2290	2125	
	2550	142	May-Jul	1324	1966	1794	
	2020	142	May-Jun	1102	1684	1426	

OLYMPIC PENINSULA

Dungeness River System

Dungeness River

nr. Sequim	166	108	May-Sep	122	172	153
	134	110	May-Jul	101	144	122
	98	114	May-Jun	75	116	86

10/ Observed flow corrected for storage in Rimrock Lake.

11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals and City of Yakima.

12/ Observed flow of North and South Forks (combined).

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.

14/ Observed flow corrected for storage in Mayfield Reservoir.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about May 1, 1972, as per cent of the same date in 1971 and 1970 and average of record.

Tributary Basin	No. of Courses Average	Years of Record	1972 Snow Water Expressed as per cent of		
			1971	1970	1953-67
<u>UPPER COLUMBIA BASIN</u>					
Pend Oreille	13 - 16	8 - 35	117	126	147*
Kettle	9	9 - 34	133	157	178*
Spokane	5 - 8	8 - 35	140	157	159*
Okanogan	23 - 33	7 - 37	145	185	187*
Methow	4 - 5	11 - 30	105	154	184*
Chelan	2	11 - 40	124	206	163*
Entiat	7 - 8	5 - 7	108	198	167*
Wenatchee	4 - 9	11 - 40	117	214	238*
Yakima	10 - 13	6 - 52	98	153	214*
<u>LOWER COLUMBIA</u>					
Mill Creek	1	23	127	100	195
White Salmon	2	16	92	180	161*
Lewis	13 - 16	11 - 28	76	379	182*
Cowlitz	2 - 4	9 - 32	106	156	173*
<u>PUGET SOUND</u>					
White	1	16	60	96	98*
Green	1 - 3	11 - 26	86	134	105*
Snoqualmie	1	16	93	160	170*
Skykomish	2	14 - 26	110	160	173*
Skagit	9 - 13	1 - 28	92	187	190*
Baker	7 - 10	3 - 14	93	223	133*
Nooksack	1	3	102	159	--
<u>OLYMPIC PENINSULA</u>					
Skokomish	3	1	--	169	--
Elwha	1	19	78	192	123*
Dungeness	1	19	90	166	136*

* Records of less than 15 years used on computation of averages

RESERVOIR STORAGE - 1000 Acre Feet

BASIN or STREAM	RESERVOIR	USABLE ^{1/} CAPACITY	Measured May			Normal*
			1972	1971	1970	
<u>COLUMBIA</u>						
Spokane	Coeur d'Alene Lake	225.1	208.7	281.3	149.5	299.9
Columbia	Franklin D. Roosevelt Lake	5232.0	497.3	743.6	538.5	2444.9
Columbia	Banks Lake	761.8	213.2	543.1	648.0	409.7
Okanogan	Conconully Reservoir	13.0	10.6	7.4	8.1	7.6
Okanogan	Salmon Lake	10.5	9.5	3.0	7.6	8.7
Chelan	Lake Chelan	676.1	205.1	192.6	74.3	210.0
<u>YAKIMA</u>						
Yakima	Keechelus Lake	157.8	106.1	98.4	99.3	120.6
Kachess	Kachess Lake	239.0	161.2	166.2	196.2	202.4
Cle Elum	Lake Cle Elum	436.9	171.6	238.0	216.9	323.2
Bumping	Bumping Lake	33.7	6.4	3.8	7.7	20.1
Tieton	Rimrock Lake	198.0	64.5	112.2	119.5	154.1
<u>PUGET SOUND</u>						
Skagit	Ross Reservoir	1202.9	768.7	775.9	541.0	695.4
Skagit	Diablo Reservoir	90.6	88.4	88.4	86.4	85.2
Skagit	Gorge Reservoir	9.8	8.4	8.5	8.0	--

1/ Based on Active Storage

* 15-year average 1953-67

SOIL MOISTURE - MAY

Drainage Basin and Station	Number	Elev.	Profile	(Inches):	Soil Moisture Content		
			Depth	Total : Capacity: 1972	(Inches) 1971	as of May 1	1970
<u>CRAB CREEK</u>							
Jack Woods	18B3m	2600	48	13.6	9.4	10.2	10.4
Krause	18B4m	2440	48	13.6	8.9	9.7	9.2
Sheffels	18B5m	2360	48	13.6	9.5	9.5	8.7
Sherman	18B7m	2440	48	13.6	8.7	8.8	8.9
Wheatridge	18B6m	2200	48	13.6	10.0	10.4	9.6
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	3.8	3.8	3.7
Trout Creek	3-M	3600	48	7.3	5.6*	4.0	--
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	4.8	4.8	5.6
Lake Cle Elum	21B14M	2200	48	12.8	9.1	9.2	9.2
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	10.5	10.0	10.4
Helmers	17C2M	4400	48	12.0	10.7	10.2	10.5
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	12.2	11.4	6.3
* April 1 report							

FALL SOIL MOISTURE

Drainage and Station	Number	Elev.	Profile	(Inches):	Soil Moisture Content		
			Depth	Total : Capacity: 1971	(Inches) 1970	as of Oct. 1	1969
<u>CRAB CREEK</u>							
Jack Woods	18B3m	2750	48	13.6	5.3	7.0	7.5
Krause	18B4m	2420	48	13.6	5.0	4.4	5.9
Sheffels	18B5m	2380	48	13.6	5.3	4.4	4.5
Sherman	18B7m	2440	48	13.6	4.0	3.8	4.2
Wheatridge	18B6m	2290	48	13.6	5.5	7.8	5.4
<u>OKANOGAN</u>							
Salmon Meadows	19A2M	4500	48	5.4	2.7	1.7	2.7
Trout Creek	3-M	3600	48	7.3	3.3	3.4*	3.8*
<u>YAKIMA</u>							
Domery Flat	21B20m	2200	48	6.9	2.1	2.4	--
Lake Cle Elum	21B14M	2200	48	12.8	7.1	7.6	--
<u>WALLA WALLA</u>							
Couse	17C3m	3650	48	11.1	6.2	5.9	6.1
Helmers	17C2M	4400	48	12.0	8.2	7.3	7.1
<u>WENATCHEE</u>							
Upper Wheeler	20B7M	4400	48	12.7	6.5	5.1	9.8

* Nov 1 measurement

PRECIPITATION 1/

Division Averages and Departures

Drainage Division	FALL		WINTER		SPRING	
	Sept-Oct 1971 2/	Observed - Departure	Nov. '71 - Mar. '72 2/	Observed - Departure	April '72 2/	Observed-Departure
Columbia in Canada	4.45	+ 0.56	18.14	+ 5.45	1.65	+ 0.27
Pend Oreille - Spokane	4.63	+ 0.48	22.16	+ 3.91	2.51	+ 0.18
Northeastern Washington	3.16	+ 0.91	9.92	- 1.17	1.61	+ 0.18
Southeastern Washington	3.73	+ 1.08	15.47	+ 3.06	1.92	+ 0.04
Central Washington	4.15	- 0.29	39.29	+12.16	2.02	- 0.19
North Central Washington	1.99	+ 0.58	10.09	+ 3.75	1.05	+ 0.28
Northwest Slope Cascades	11.60	- 0.07	66.90	+14.76	8.28	+ 2.37
Southwest Slope Cascades	9.33	+ 1.61	54.96	+14.09	6.78	+ 2.45

Northeastern Washington	- Lower Spokane, Colville, Sanpoil and lower Kettle drainages.
Southeastern Washington	- Touchet, Tucannon and Palouse drainages
Central Washington	- Yakima, Wenatchee and Chelan drainages.
North Central Washington	- Methow and Okanogan drainages.
Northwest Slope Cascades	- Puget Sound drainages.
Southwest Slope Cascades	- Lower Columbia drainages.

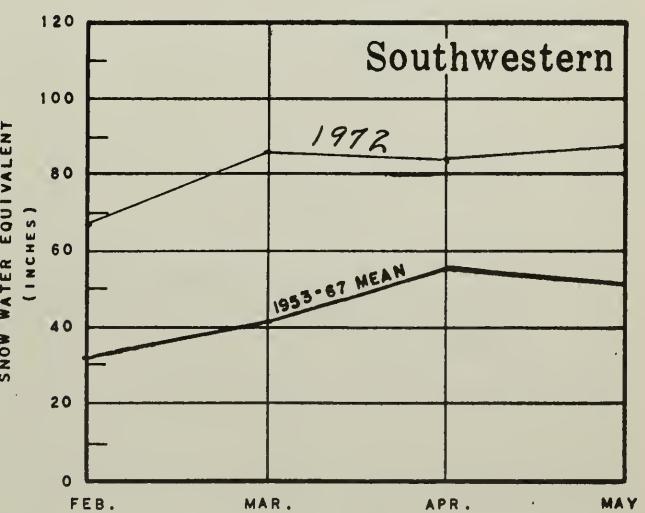
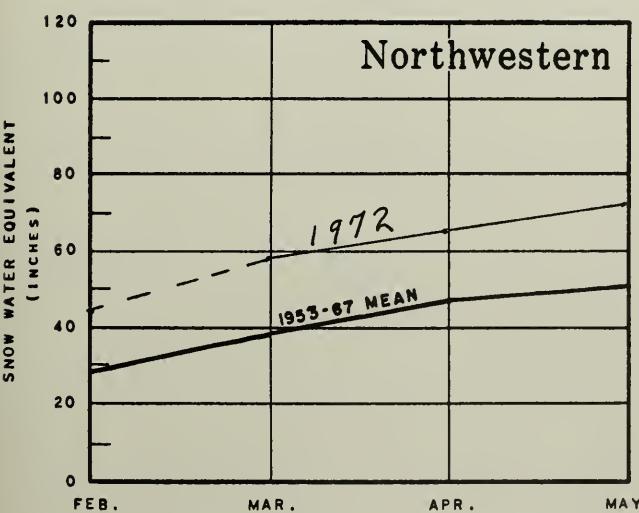
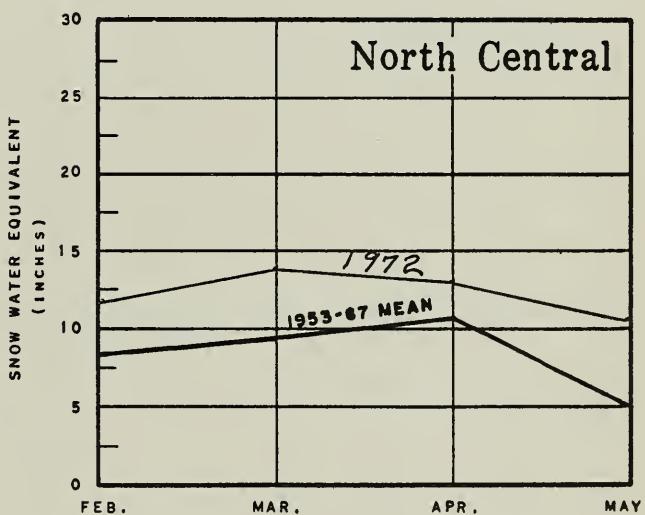
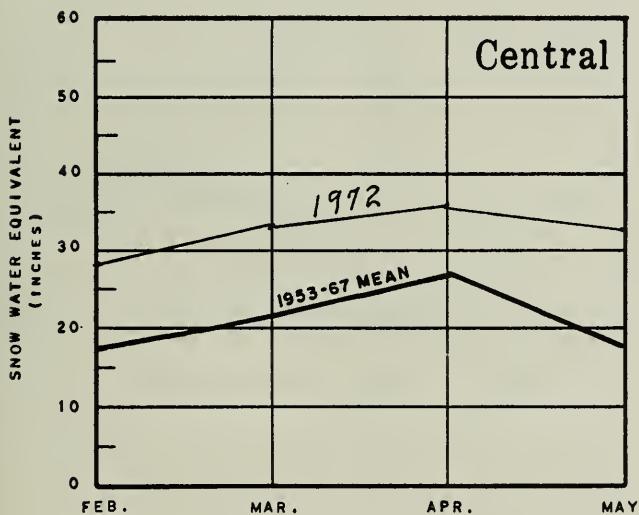
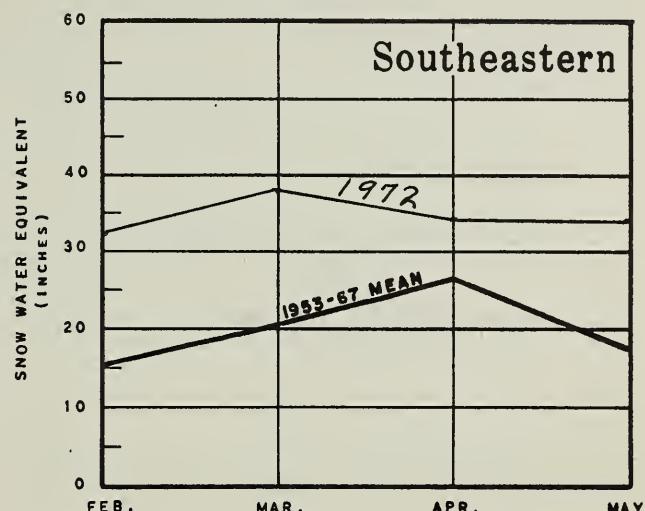
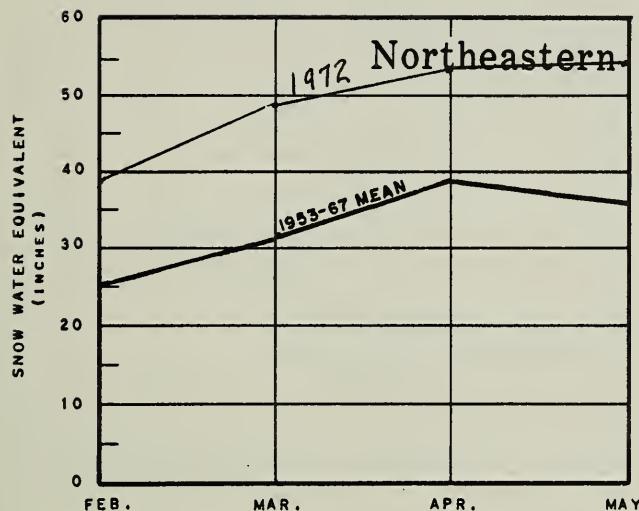
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and National Weather Service

2/ - Departure from 15-year (1953-67) drainage division average.

WASHINGTON SNOW COVER

1972

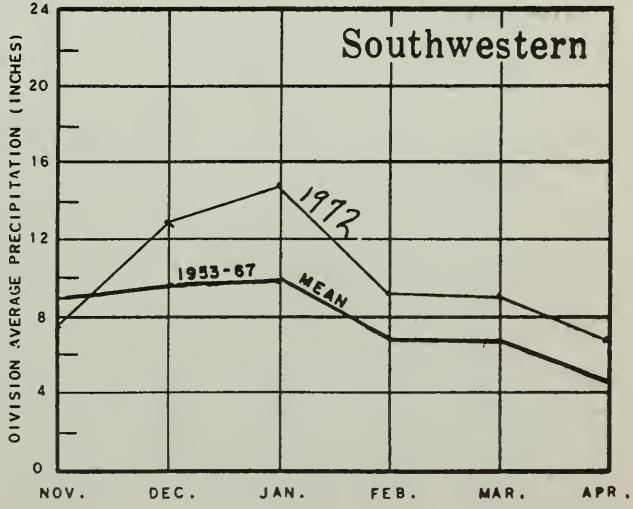
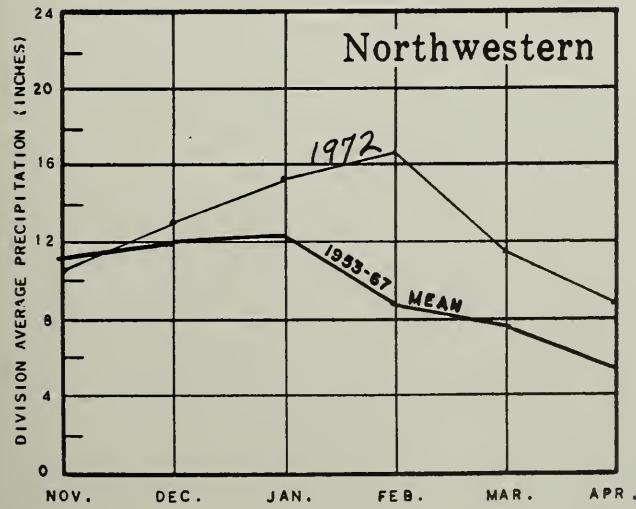
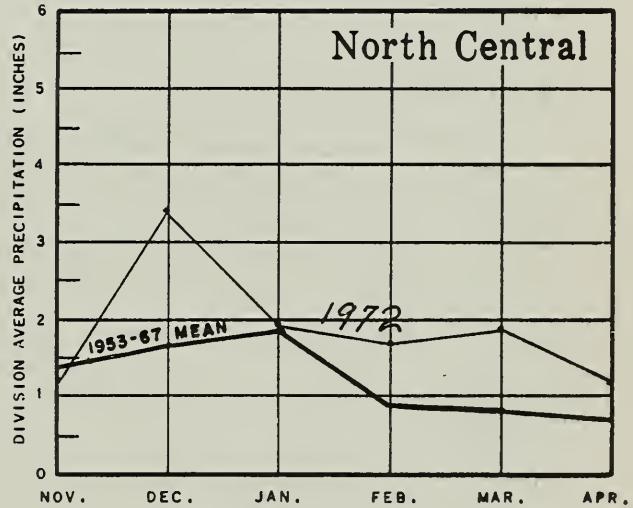
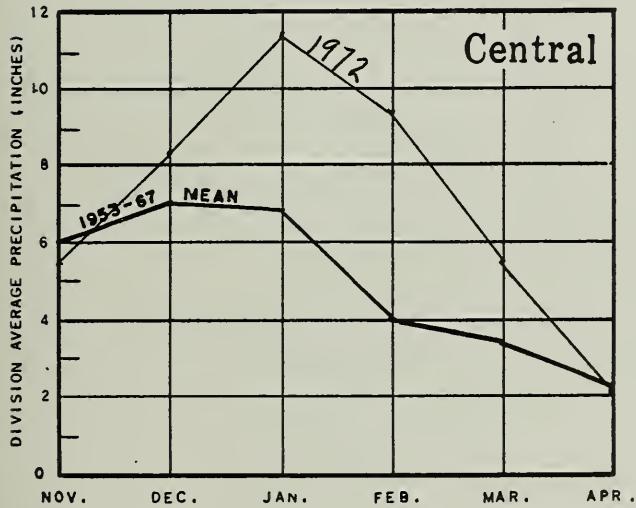
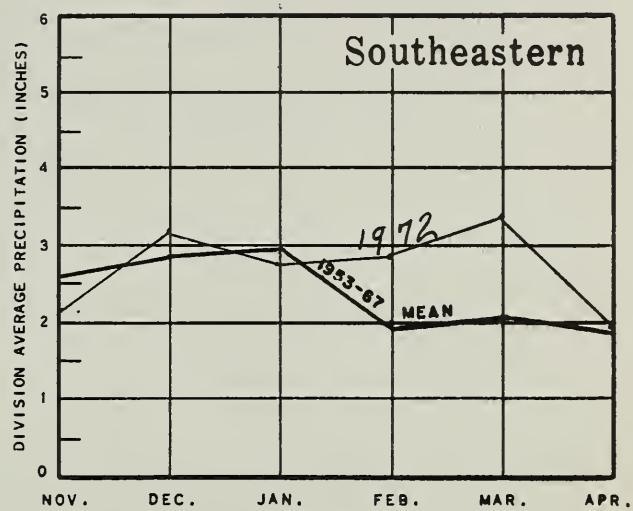
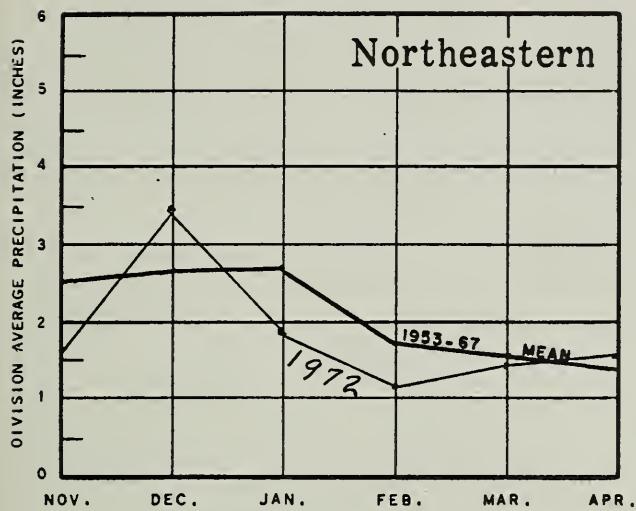
DRAINAGE AREAS



WASHINGTON VALLEY PRECIPITATION

1971-1972

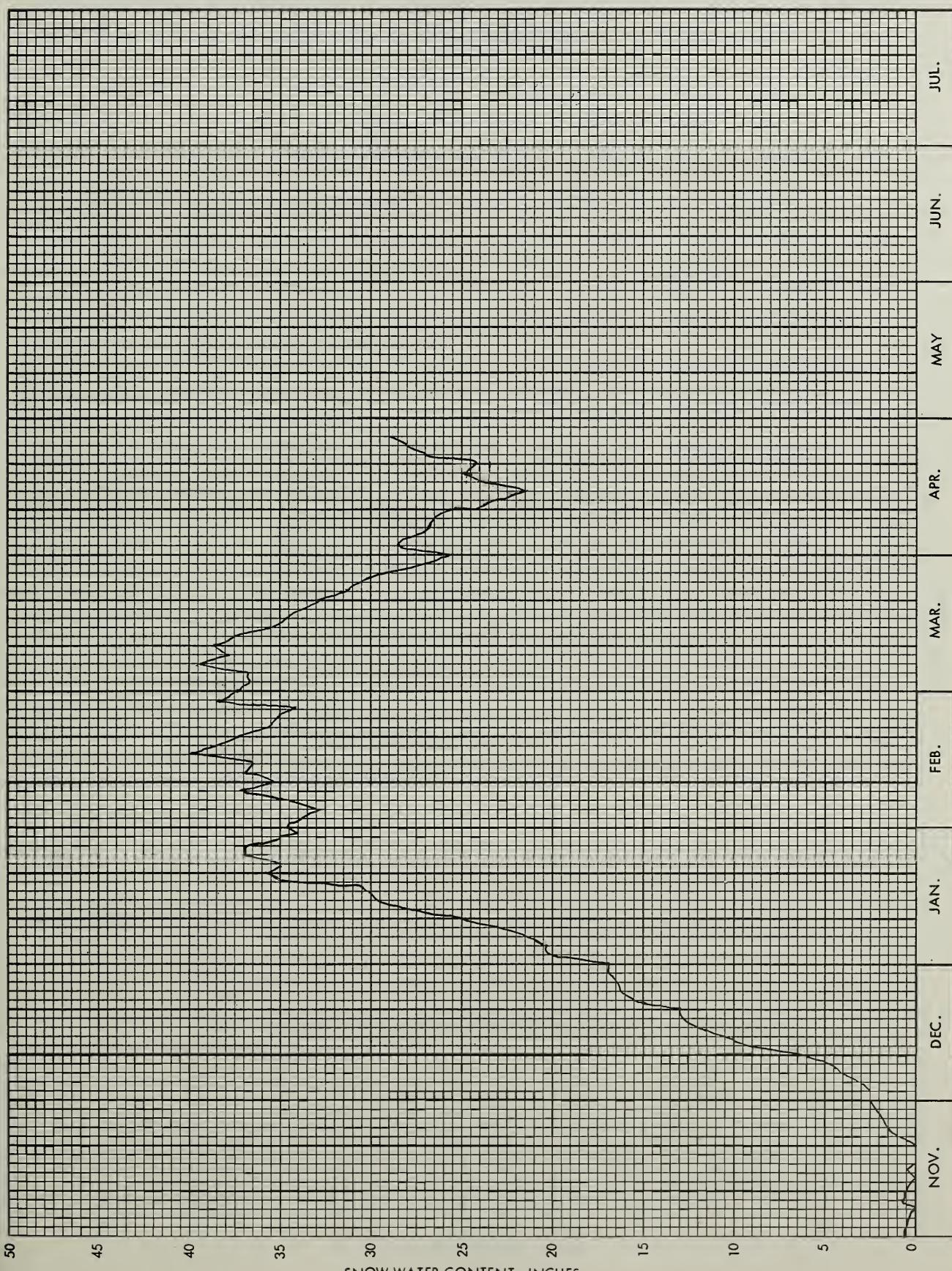
DRAINAGE AREAS



Cougar Mountain - FS
SNOW PILLOW DATA

AS OF May 1, 1972

Sec. 21 T. 21N R. 9E No. 21B42SP Drainage: Green River
Lat. 47° 17' Long. 121° 40' Elev. 3200'

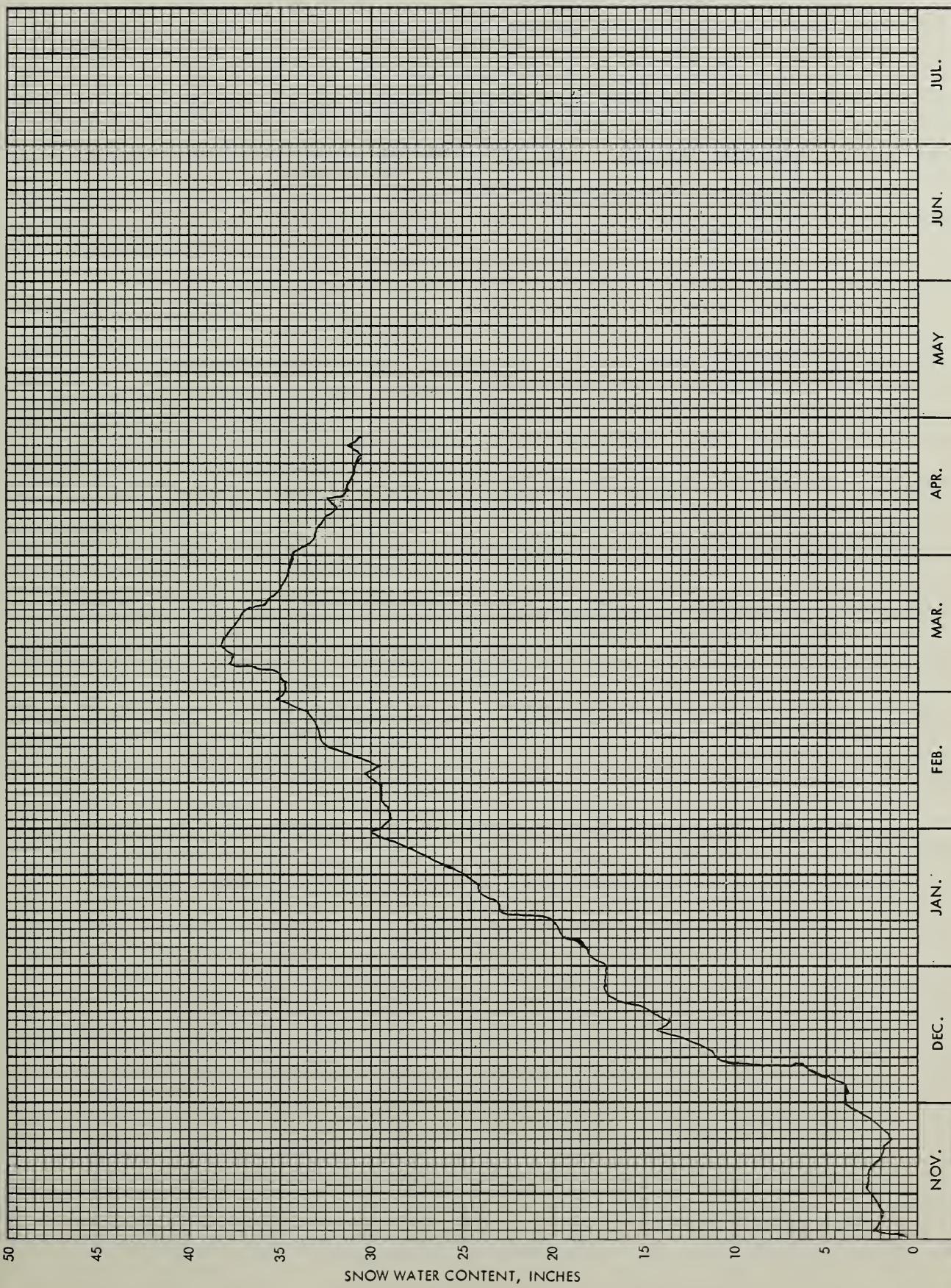


Berne-Mill Creek
SNOW PILLOW DATA

AS OF May 1, 1972

Sec. 13 T. 26N R. 14E No. 21B41SP Drainage: Wenatchee R.

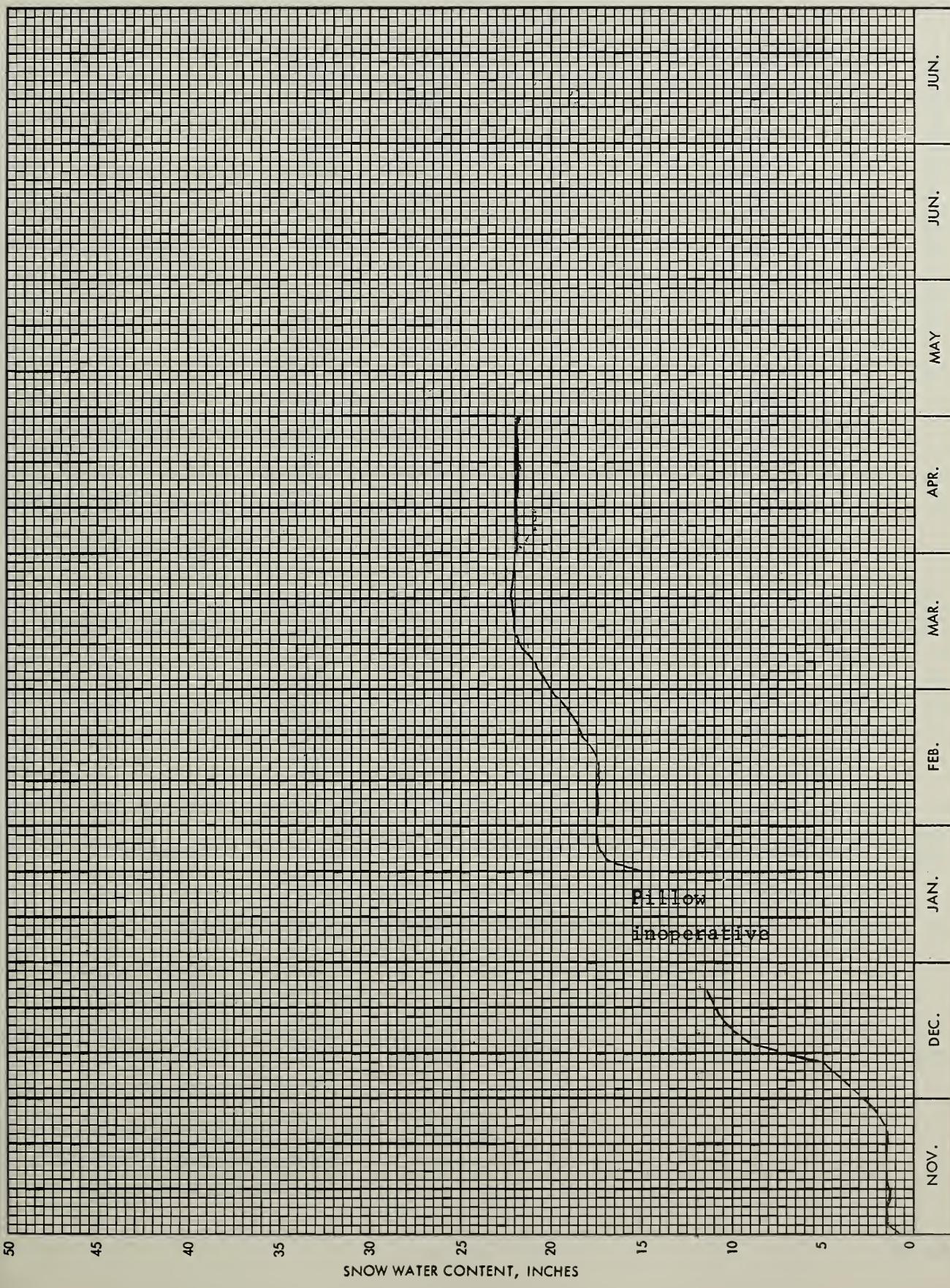
Lat. 47° 45' Long. 121° 42' Elev. 3240'



Trough No. 2
SNOW PILLOW DATA

AS OF May 1, 1972

Sec. 10 T. 20N R. 20E No. 20B25SP Drainage: Wenatchee
Lat. $47^{\circ} 14'$ Long. $120^{\circ} 19'$ Elev. 5310'



APPENDIX 1
SNOW DATA APRIL 1 to MAY 1, 1972

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
<u>U P P E R C O L U M B I A D R A I N A G E</u>							

PEND OREILLE RIVER

Baree Creek	15B11	5500	5/1	140	69.3	59.4	48.4
Baree Midway	15B16	4600	5/1	101	49.7	38.5	35.8
Baree Trail	15B15	3800	5/1	4	1.8	0.0	1.0
Benton Meadow	16A2	2344	4/30	0	0.0	0.0	0.0
Benton Spring	16A3	4900	4/30	40	19.2	16.7	17.1
Boyer Mountain	17A2	5250	4/27	61	30.0	30.4	25.2
Brush Creek	14A4	5000	4/25	30	13.7	10.0	10.8
Bunchgrass Meadow	17A1	5000	4/26	74	36.0	29.1	30.4
Heart Lake Trail	14C10	4800	4/28	78	38.7	29.5	17.2
Hoodo Basin	15C10	6000	4/28	173	88.0	68.8	55.8
Hoodo Creek	15C1	6200	4/28	168	85.9	66.1	52.0
Lookout	15B2	5250	4/17	124	57.1	48.7	--
			5/1	107	54.0	44.5	36.7
Nelson	Canada	3050	4/27	26	11.4	11.6	7.0**
Schweitzer Bowl	16A6	4500	4/28	66	32.7	34.0	--
Schweitzer Ridge	16A5	6100	4/28	125	57.8	58.5	--
Smith Creek	16A1	4800	5/2	118	59.8	54.9	49.4
Winchester Creek	17A3	2970	4/27	0	0.0	6.9	0.5*

KETTLE RIVER

Barnes Creek	Canada	5500	4/27	70	29.2	23.7	21.1**
Big White Mountain	Canada	5500	4/27	70	26.1	26.1	21.2**
Boulder Road	18A2	1450	4/25	0	0.0	0.0	--
Butte Creek	18A3	4070	4/25	14	4.7	8.3	5.5*
Cabin Creek	18A8	3170	4/25	6	2.0	6.3	1.4*
Carmi	Canada	4100	4/27	15	6.8	1.9	1.5**
Farron	Canada	4000	4/26	28	13.7	12.7	7.9**
Goat Creek	18A4	3595	4/25	0	0.0	0.0	--
Lower Trapping Creek	Canada	3050	4/27	0	0.0	0.0	--
#Monashee Pass	Canada	4500	4/27	46	19.7	14.3	13.2**
Old Glory Mountain	Canada	7000	4/30	99	40.1	37.1	30.6**
Snow Caps Creek	18A5	2150	4/25	0	0.0	0.0	--
Snow Caps Trail	18A6	2720	4/25	0	0.0	0.0	--
Upper Trapping Creek	Canada	5500	4/27	28	11.7	6.8	5.7**

SPOKANE RIVER

Copper Ridge	16B2	4800	4/27	77	40.3	26.2	27.8
Forty-nine Meadows	15B3	5000	4/28	96	43.5	45.8	30.6*

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
NAME	No.	Elevation					Average +

SPOKANE RIVER (Cont.)

Fourth of July Summit	16B3	3100	5/1	0	0.0	0.0	--
Granite Peak	15B13A	6000	4/28	190	89.3	63.8	--
#Lookout	15B2	5250	4/17	124	57.1	48.7	--
			5/1	107	54.0	44.5	36.7
Lost Lake	15B14A	6000	4/28	224	105.3	82.0	62.7*
Lower Sands Creek	16B1	3400	4/27	61	28.0	20.6	14.6
Medicine Ridge	15B4A	6150	4/28	155	77.5	63.0	--
#Mosquito Ridge SP	16A4A	5110	4/30		47.0		
Outlaw Creek	15B12A	3750	4/28	0	0.0	0.0	8.0*
Sherwin	16C1	3200	4/28	40	18.4	8.2	--

OKANOGAN RIVER

Aberdeen Lake	Canada	4300	5/1	11	4.5	0.0	1.7**
Blackwall Peak	Canada	6250	4/28	136	58.0	54.2	38.1**
Bouleau Creek	Canada	5000	4/30	40	14.7	11.4	8.4**
Bouleau Lake	Canada	4500	4/30	55	18.2	16.4	--
Brenda Mine	Canada	4800	4/27	49	20.7	11.0	9.2**
Brookmere	Canada	3200	4/26	44	15.7	13.8	5.6**
Carrs Landing Lower	Canada	2250	4/28	0	0.0	0.0	--
Carrs Landing Upper	Canada	3200	4/28	0	0.0	0.0	--
Clark +	19A8a	7000	5/1	105	48.3	28.3	24.4*
Enderby	Canada	6250	4/28	140	55.0	50.0	41.4**
#Freezeout Meadows Alt.	20A2	5000	4/27	88	39.2	61.1	31.6
Hamilton Hill	Canada	4900	4/30	70	33.0	17.7	12.2**
#Harts Pass	20A5A	6500	4/26	161	72.7	65.8	49.8
Isintok Lake	Canada	5510	4/30	46	17.1	7.7	6.2**
Lost Horse Mountain	Canada	6300	4/27	59	21.8	14.6	10.0**
#Loup Loup	19A7	4650	4/26	14	6.2	10.4	--
Lower Esperon Creek	Canada	4270	5/1	36	14.6	15.0	11.2**
McCulloch	Canada	4200	4/24	17	6.1	2.7	2.8**
Middle Esperon Creek	Canada	4580	5/1	45	18.9	21.7	14.2**
Missezula Mountain	Canada	5100	Not Measured		--	--	4.5**
Mission Creek	Canada	6000	4/27	76	30.0	24.9	22.0**
Monashee Pass	Canada	4500	4/27	46	19.7	14.3	13.2**
Mount Kobau	Canada	5950	4/28	55	17.6	17.4	14.1**
Muckamuck +	19A9a	6390	5/1	58	21.2	23.0	--
Mutton Creek No. 1	19A1	5700	4/27	48	23.0	17.1	10.0
Mutton Creek No. 2	19A4	6000	4/27	57	24.0	20.7	15.1
New Copper Mountain	Canada	4300	4/29	12	6.0	1.9	--
New Penticton Res.	Canada	6200	4/28	44	15.0	--	--

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	No.	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average +

OKANOGAN RIVER (Cont.)

Nickel Plate Mtn.	Canada	6200	4/27	51	17.0	10.1	7.5**
Postill Lake	Canada	4500	4/28	30	10.6	8.2	6.7**
#Quartette Lake	Canada	4000	4/29	55	23.6	--	--
Rusty Creek	19A3	4000	4/27	0	0.0	0.0	1.3*
Salmon Meadows	19A2	4500	4/27	22	10.7	10.0	5.0
Silver Star Mtn.	Canada	6050	4/22	103	44.2	33.5	27.5**
Starvation Mtn.+	19A10a	6750	5/1	78	21.2	27.1	25.1*
Summerland Res.	Canada	4200	4/29	35	14.5	8.6	5.9**
Touts Coulee	19A6	2845	5/1	0	0.0	--	--
Trout Creek	Canada	4700	4/25	41	15.2	7.1	4.9**
Upper Esperon Creek	Canada	5290	5/1	67	24.1	25.1	21.9**
Vaseux Creek	Canada	4050	4/30	22	7.0	1.6	--
White Rocks Mtn.	Canada	6000	4/28	76	35.9	30.6	--

METHOW RIVER

Harts Pass	20A5A	6500	4/26	161	72.7	65.8	49.8
Loup Loup	19A7	4650	4/26	14	6.2	10.4	--
#Mutton Creek No. 1	19A1	5700	4/27	48	23.0	17.1	10.0
#Mutton Creek No. 2	19A4	6000	4/27	57	24.0	20.7	15.1
#Rusty Creek	19A3	4000	4/27	0	0.0	0.0	1.3*
#Salmon Meadows	19A2	4500	4/27	22	10.7	10.0	5.0

CHELAN LAKE BASIN

Rainy Pass	20A9	4780	4/26	143	69.0	58.4	43.9
Safety Harbor	20A30A	6300	4/24	118	51.1	39.5	30.2*

ENTIAT RIVER

Brief	20B19	1600	4/28	0	0.0	0.0	0.0*
Entiat Meadows +	20A33a	4800	5/1	120	61.2	55.5	37.0*
Entiat River Trail +	20A34a	3150	5/1	28	14.4	22.3	10.7*
Fox Camp +	20A36a	6510	5/1	182	92.8	82.8	57.6*
Pope Ridge	20B20	4300	4/27	31	16.2	18.5	8.3*
Pugh Ridge +	20A32a	6400	5/1	125	63.8	48.2	34.7*
Shady Pass	20A37	5000	4/28	107	54.2	27.4	--
Snow Brushy +	20A35a	3850	5/1	101	51.5	46.9	27.5*
Tommy Creek +	20B21a	5300	5/1	60	30.6	31.0	212.*

Not located directly on this drainage

* Adjusted 1953-67 average

** Average for years of record

+ Snow water equivalent estimated from aerial stadia observation

APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year
NAME	NO.	Elevation					Average +
<u>WENATCHEE RIVER</u>							
Berne-Mill Creek	21B23	2925	4/26	85	43.5	41.7	18.2*
Berne-Mill Creek New	21B41SP	3240	4/26	52	28.2	34.2	--
Blewett Pass No. 2	20B2	4270	4/13	60	31.8	22.5	12.1*
			4/28	50	27.5	19.7	8.9
Chiwaukum G. S.	20B16	1810	4/26	24	11.6	8.8	--
#Fish Lake	21B4	3371	4/27	101	56.1	55.1	24.1*
Lake Wenatchee	20B5	1970	4/27	29	14.4	9.8	--
Leavenworth R. S.	20B17	1127	4/24	0	0.0	0.0	--
Merritt	20B18	2140	4/26	44	19.8	15.2	--
Stevens Pass	21B1	4070	4/14	165	78.1	74.2	55.7*
			4/26	171	92.8	77.8	53.5
Stevens Pass S. Shed	21B45	3700	4/14	106	52.5	53.0	--
			4/26	110	55.3	54.9	--
<u>QUILCHUCK CREEK</u>							
Beehive Springs	20B3	4400	4/28	8	4.3	4.8	--
Scout-A-Vista	20B4	3400	4/28	0	0.0	2.0	--
<u>STEMILT CREEK</u>							
Jump-Off	20B8	4450	4/26	15	8.0	7.4	--
Stemilt Slide	20B6	5000	4/27	26	14.0	15.3	4.0
Upper Wheeler	20B7	4400	4/27	0	0.0	3.7	--
<u>COLOCKUM CREEK</u>							
Colockum Creek Upper	20B22	5300	4/26	31	17.3	16.0	--
Colockum Creek Lower	20B23	4300	4/26	4	1.8	7.0	--
<u>YAKIMA RIVER</u>							
#Ahtanum R. S.	21C11	3100	5/1	0	0.0	0.0	0.0
Big Boulder Creek	21B9	3200	4/27	46	23.6	26.4	5.0*
#Blewett Pass No. 2	20B2	4270	4/13	60	31.8	22.5	12.1*
			4/28	50	27.5	19.7	8.9
Bumping Lake	21C8	3450	4/14	45	19.5	28.2	13.3*
			5/1	32	16.2	20.9	9.3
Bumping Lake New	21C36	3400	4/14	60	26.9	33.8	--
			5/1	47	23.6	27.0	--
#Cayuse Pass	21C6	5300	4/26	288	139.1	--	--

Not located directly on this drainage

* Adjusted 1953-67 average

APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average +

YAKIMA RIVER (Cont.)

Lemah Creek +	21B47a	3327	4/26	119	64.3	57.8	--
Fish Lake	21B4	3371	4/27	101	56.1	55.1	24.1*
Joe Lake +	21B46a	4624	Marker buried				
Lake Cle Elum	21B14M	2200	4/18	24	10.9	0.0	--
			5/1	0	0.0	--	--
Morse Lake	21C17	5400	4/27	183	48.0	102.6	62.4*
#Olallie Meadows	21B2	3625	4/13	165	79.2	80.0	51.0*
			4/27	163	81.8	88.0	48.1*
#Satus Pass	20D1	4030	4/28	0	0.0	13.0	--
#Stampede Pass	21B10	3000	4/15	145	43.8	70.6	48.6
			5/1	157	48.1	59.8	46.0
Tunnel Avenue	21B8	2450	4/15	76	35.3	35.3	21.5*
			4/30	67	32.4	32.3	17.4
Van Epps Pass +	20B26a	5925	Marker buried			80.4	--
Waptus Lake +	21B49a	3024	4/26	122	65.8	59.2	--
White Pass (E. Side)	21C28	4500	4/17	112	50.9	41.6	27.8*
			5/2	105	51.9	40.1	26.2*
White Pass (L. Lake)	21C27	4500	Not Measured			47.2	29.6*
			4/26	114	55.0	--	28.0

AHTANUM CREEK

Ahtanum R. S.	21C11	3100	5/1	0	0.0	0.0	0.0*
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LOWER COLUMBIAASOTIN CREEK

Spruce Springs	17C4	5700	4/27	71	35.3	26.5	--
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MILL CREEK

Tollgate	18D3M	5070	4/27	67	34.2	26.9	17.5
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KLICKITAT RIVER

Satus Pass	20D1	4030	4/28	0	0.0	13.0	--
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WHITE SALMON RIVER

Cultus Creek	21C12	4000	4/26	142	69.9	78.6	47.8*
#Surprise Lakes	21C13A	4250	4/26	172	88.7	92.7	50.5*

Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observation

* Adjusted 1953-67 average

APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	No.	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average +

WIND RIVER

Old Man Pass	21D19	3100	4/26	55	25.7	42.0	11.4
--------------	-------	------	------	----	------	------	------

LEWIS RIVER

Blue Lake +	21C22a	4800	4/26	288	144.0	141.0	90.1*
Bob's Trail	21C21	2200	4/26	41	20.0	26.3	5.7*
Calamity Ridge +	22D1a	2500	4/26	3	1.0	10.8	--
Council Pass +	21C18a	4200	4/26	136	69.4	68.0	35.4*
#Cultus Creek	21C12	4000	4/26	142	69.9	78.6	47.8*
Divide Meadow +	21C29a	5600	4/26	217	112.8	94.5	61.6*
Grand Meadow	21C25	3500	4/26	79	38.2	42.3	22.2*
Lone Pine Shelter	21C26	3800	4/26	140	63.9	83.4	45.3*
Marble Mountain +	22C5a	3200	4/26	100	52.0	84.2	31.3*
#Mosquito Meadows	21C19	4100	4/26	136	65.2	--	--
New Muddy River	22C6	1400	4/26	0	0.0	6.7	--
Old Man Pass	21D19	3100	4/26	55	25.7	42.0	11.4*
Plains of Abraham +	22C1a	4400	4/26	198	103.0	123.0	73.8*
Smith Creek Road	22C4	2100	4/26	29	15.2	30.7	--
Spencer Meadow +	21C20a	3400	4/26	62	30.4	42.3	13.0*
Surprise Lakes	21C13A	4250	4/26	172	88.7	92.7	50.5*
Table Mountain +	21C24a	4200	4/26	145	74.0	81.0	44.7*
Timbered Peak +	21D18a	3000	4/26	25	11.8	30.8	12.3*

COWLITZ RIVER

Cayuse Pass	21C6	5300	4/26	288	139.1	--	--
Mosquito Meadows	21C19	4100	4/26	136	65.2	--	--
Pigtail Peak	21C33	5900	4/17	246	124.7	103.2	74.1*
			5/2	233	122.2	--	77.6*
#Plains of Abraham +	22C1a	4400	4/26	198	103.0	123.0	73.8*
Potato Hill	21C14	4500	4/26	108	52.5	--	--
#White Pass (E. Side)	21C28	4500	4/17	112	50.9	41.6	27.8*
			5/2	105	51.9	40.1	26.2*
#White Pass (L. Lake)	21C27	4500	Not Measured			47.2	29.6*
			4/26	114	55.0	--	28.0*

PUGET SOUND DRAINAGENISQUALLY RIVER

Ghost Forest	21C4	4550	4/26	182	88.5	--	--
Longmire	21C3	2760	4/26	40	17.7	--	--

Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observation

* Adjusted 1953-67 average

APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	No.	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average +

NISQUALLY RIVER (Cont.)

New Paradise Park	21C35	5500	4/26	269	130.2	--	--
Stem Glade	21C1	5050	4/26	261	123.2	--	--

WHITE RIVER

#Cayuse Pass	21C6	5300	4/26	288	139.1	--	--
#Morse Lake	21C17	5400	4/27	183	61.2	102.6	62.4

GREEN RIVER

Cougar Mountain SP	21B42SP	3200	4/27	46	23.4	35.0	--
Snowshoe Butte SP	21B43SP	5000	4/27	208	101.7	91.8	--
Stampede Pass	21B10	3000	4/15	145	43.8	70.6	48.6
			5/1	157	48.1	59.8	46.0

SNOQUALMIE RIVER

Olallie Meadows	21B2	3625	4/13	165	79.2	80.0	51.0*
			4/27	163	81.8	88.0	48.1*

SKYKOMISH RIVER

#Stevens Pass	21B1	4070	4/14	165	78.1	74.2	55.7*
			4/26	171	92.8	77.8	53.5
#Stevens Pass S. Shed	21B45	3700	4/14	106	52.5	53.0	--
			4/26	110	55.3	54.9	--

SKAGIT RIVER

Beaver Creek Trail	21A4	2200	4/26	28	11.7	24.3	5.6*
Beaver Pass	21A1	3680	4/26	114	50.6	59.9	35.0
Brown Top +	21A28a	6000	4/27	227	104.4	91.0	--
Devils Park	20A4	5900	4/26	165	74.8	60.8	49.2
Freezeout Cr. Trail	20A1	3500	4/27	42	19.0	22.3	8.3
Freezeout Mead. Alt.	20A2	5000	4/27	88	39.2	61.1	31.6
Granite Creek	21A29	3500	4/26	65	28.6	27.4	--
#Harts Pass	20A5A	6500	4/26	161	71.3	65.8	49.8
Klesilkwa	Canada	3700	4/30	64	29.5	--	--
Lake Hozomeen	21A2	2600	4/27	28	9.9	19.5	5.8
Meadow Cabins	20A8	1900	4/26	21	8.8	6.4	2.0*
New Lake Hozomeen	21A30	2600	4/27	32	13.0	24.5	--

Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observation

* Adjusted 1953-67 average

APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	No.	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average +

SKAGIT RIVER (Cont.)

New Tashme	Canada	2500	5/1	35	17.1	--	--
Quartette Lake	Canada	4000	4/29	55	23.6	--	--
#Rainy Pass	20A9	4780	4/26	143	69.0	58.4	43.9
Thunder Basin	20A7	4200	4/26	87	36.8	36.1	26.9*

BAKER RIVER

Dock Butte	21A11A	3800	5/1	237	110.0	107.2	87.1*
Easy Pass	21A7A	5200	4/27	283	125.6	113.7	107.4*
Jasper Pass	21A6A	5400	4/27	281	134.0	129.2	113.6*
Komo Kulshan	21A17	800	4/28	7	3.8	6.8	--
Marten Lake	21A9A	3600	5/1	244	118.5	111.3	93.3*
Mount Blum +	21A18a	5800	Not Measured		82.3	--	
			Not Measured		83.0	--	
#Panorama New	21A26	4300	4/14	212	86.4	105.5	--
			4/27	215	110.3	107.8	--
Rocky Creek	21A12A	2100	5/1	91	43.7	56.0	20.4*
Schreibers Meadow	21A10A	3400	5/1	189	89.6	101.8	73.7*
S. F. Thunder Creek	21A14A	2200	5/1	0	0.0	10.3	--
Sulphur Creek	21A13	1600	5/1	42	19.9	27.3	--
Three Mile Creek	21A8A	4500	5/1	0	0.0	0.0	--
Watson Lakes	21A8A	4500	5/1	241	114.4	107.4	83.6*

NOOKSACK RIVER

Glacier Creek	21A23	3700	4/27	90	40.0	--	--
Panorama New	21A26	4300	4/14	212	86.4	105.5	--

OLYMPIC PENINSULADUNGENESS RIVER

Deer Park	23B4	5200	4/28	66	33.1	36.9	24.3*
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MORSE CREEK

Cox Valley	23B14	4500	4/30	126	51.5	68.3	--
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Not located directly on this drainage

+ Snow water equivalent estimated from aerial stadia observation

* Adjusted 1953-67 average

APPENDIX 9

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD		
NAME	No.	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	Last Year	Average +

ELWHA RIVER

Hurricane	23B3	4500	4/25	83	34.4	44.0	28.0*
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SKOKOMISH RIVER

Black & White	23B7	4200	4/26	130	59.5	--	--
Black & White Lakes	23B6	4700	4/26	182	91.2	--	--
Four Streams	23B10	3000	Not Measured				
Home Sweet Home	23B5	5200	4/26	246	116.0	--	--

* Adjusted 1953-67 average

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Department of Lands, Forests and Water Resources,
Water Resources Service, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
Corps of Engineers
U. S. Department of Agriculture
Forest Service
U. S. Department of Commerce
NOAA, National Weather Service
U. S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Geological Survey
National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

*Other organizations and individuals furnish valuable information for
snow survey reports. Their cooperation is gratefully acknowledged.*

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